FORM PTO-1390
REV. 5-93

US DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEYS DOCKET NUMBER
P00,1251

U.S.APPLICATION NO. (if known, see 37 CFR 1.5)
09/600061

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/DE98/03647	**December 11, 1998**	**January 8, 1998**

TITLE OF INVENTION **OPERATING SURFACE FOR CLASS FUNCTIONS IN A TELEPHONE**

APPLICANT(S) FOR DO/EO/US **Matthias Schneider-Hufschmidt**

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay.
4. ☐ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.

5. ☒ A copy of International Application (35 U.S.C. 371(c)(2))
   a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☒ has been transmitted by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2).

7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. §371(c)(3))
   a. ☒ are transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☒ have been transmitted by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☐ have not been made and will not be made.

8. ☒ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)) **(attached at back of English translation of application)**.

9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).

10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98; **(PTO 1449, Prior Art, Search Report)**.

12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. 3.28 and 3.31 is included.
    (SEE ATTACHED ENVELOPE)

13. ☒ A FIRST preliminary amendment.
    ☐ A SECOND or SUBSEQUENT preliminary amendment.

14. ☐ A substitute specification.

15. ☐ A change of power of attorney and/or address letter.

16. ☒ Other items or information:
    a. ☒ Submission of Drawings
    b. ☐ Request for Approval of Drawing Changes
    c. ☒ EXPRESS MAIL #EL617322788US

U.S.APPLICATION NO. (If known, see 37 C.F.R. 1.5) 09/600061	INTERNATIONAL APPLICATION NO. PCT/DE98/03647	532 Rec'd PCT/PTO 10 JUL 2000 ATTORNEY'S DOCKET NUMBER P00,1251

17. ☒ The following fees are submitted:	CALCULATIONS	PTO USE ONLY
BASIC NATIONAL FEE (37 C.F.R. 1.492(a)(1)-(5): Search Report has been prepared by the EPO or JPO ..... $840.00 International preliminary examination fee paid to USPTO (37 C.F.R. 1.482) ... $760.00 No international preliminary examination fee paid to USPTO (37 C.F.R. 1.482) but international search fee paid to USPTO (37 C.F.R. 1.445(a)(2) ..... $450.00 Neither international preliminary examination fee (37 C.F.R. 1.482) nor international search fee (37 C.F.R. 1.445(a)(2) paid to USPTO ..... $1,250.00 International preliminary examination fee paid to USPTO (37 C.F.R. 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) ..... $ 98.00		
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 840.00	
Surcharge of $130.00 for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 C.F.R. 1.492(e)).	$	

Claims	Number Filed	Number Extra	Rate		
Total Claims	12 - 20 =		X $ 18.00	$ 0.00	
Independent Claims	2 - 3 =		X $ 78.00	$ 0.00	
Multiple Dependent Claims			$270.00 +	$ 0.00	
TOTAL OF ABOVE CALCULATIONS =				$ 840.00	
Reduction by 1/2 for filing by small entity, if applicable. Verified Small Entity statement must also be filed. (Note 37 C.F.R. 1.9, 1.27, 1.28)				$	
SUBTOTAL =				$ 840.00	
Processing fee of $130.00 for furnishing the English translation later than ☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)). +				$	
TOTAL NATIONAL FEE =				$	
Fee for recording the enclosed assignment (37 C.F.R. 1.21(h). The assignment must be accompanied by an appropriate cover sheet (37 C.F.R. 3.28, 3.31). $40.00 per property +				**SEE ATTACHED ENVELOPE**	
TOTAL FEES ENCLOSED =				$ ~~918.00~~ 840.00	
				Amount to be refunded	$
				charged	$

a. ☒ A check in the amount of $ 840.00 to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. _____ in the amount of $ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. **08-2290**. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 C.F.R. 1.494 or 1.495 has not been met, a petition to revive (37 C.F.R. 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Steven H. Noll
SIGNATURE

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85th Floor Sears Tower
Chicago, Illinois 60606

Steven H. Noll
NAME

28,982
Registration Number

BOX PCT

IN THE UNITED STATES DESIGNATED/ELECTED OFFICE

OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER THE PATENT COOPERATION TREATY-CHAPTER II

AMENDMENT "A" PRIOR TO ACTION

APPLICANT(S):	Matthias Schneider-Hufschmidt
ATTORNEY DOCKET NO.:	P00,1251
INTERNATIONAL APPLICATION NO.:	PCT/DE98/03647
INTERNATIONAL FILING DATE:	11 December 1998
INVENTION:	"OPERATING SURFACE FOR CLASS FUNCTIONS IN A TELEPHONE"

Assistant Commissioner for Patents

Washington, D.C. 20231

Sir:

Applicant herewith amends the above-referenced PCT application, and requests entry of the Amendment prior to examination in the United States National Examination Phase.

IN THE SPECIFICATION:

On substitute page 1, cancel the title above line 2, and insert the following above line 2:

--TITLE

OPERATING SURFACE FOR CLASS FUNCTIONS IN A TELEPHONE

BACKGROUND OF THE INVENTION--;

in line 2, after "The" insert --present--;

in line 3, preceding "invention" insert --present--;

in line 20, cancel the comma;

in line 21, cancel "respectively,".

On substitute page 1a, in line 8, cancel "EP-A-0 19 948" substitute -- European Patent Application No. 0 19 948-- therefor;

in line 10, preceding "alphanumerical" insert --an--;

in line 12, cancel ", respectively,";

in line 14, cancel "EP-A-0 503 257" substitute --European Patent Application No. 0 503 257-- therefor;

in line 19, cancel "OD [sic]" substitute --OF-- therefor;

below line 22, insert a centered heading:

--**SUMMARY OF THE INVENTION**--;

in line 23, after "The" insert --present--.

On page 2, in line 1, cancel "plurality" substitute --number-- therefor;

cancel lines 3-4, substitute the following at line 3:

--This object is inventively achieved in accordance with the present invention in an operating surface for CLASS functions of a telephone device of an analog network, said operating surface comprising: an activation function selection for enabling a command sequence following selection of the activation function selection to be interpreted as a CLASS function until disabled; and a deactivation function selection for disabling interpretation of a command sequence as a CLASS function following selection of the deactivation function selection.--;

in line 10, cancel "Further" substitute --In an embodiment-- therefor, and cancel "can be" substitute --is-- therefor;

in line 12, cancel "Additionally" substitute --In an embodiment-- therefor, and cancel "can be" substitute --are-- therefor;

in line 16, cancel "The" substitute --In an embodiment, the-- therefor;

in line 20, cancel "The" substitute --In an embodiment, the-- therefor;

in line 21, cancel "The" substitute --In an embodiment, the-- therefor, and cancel "can be" substitute --are-- therefor;

in line 22, cancel ", respectively,";

in line 24, preceding "invention" insert --present--;

in line 28, cancel "Further" substitute --In an embodiment-- therefor.

On page 3, in line 1, after "as" insert --an--;

in line 3, cancel "A" substitute --In an embodiment, a-- therefor, and cancel "can preferably be" substitute --is preferably-- therefor;

cancel lines 6-11, substitute the following at line 6:

-- In an embodiment the list of operating calls is maintained in a memory.

This object is also achieved in accordance with the present invention in a telephone device for an analog network comprising: an operating surface for CLASS functions of a telephone device of an analog network, said operating surface having: an activation function selection for enabling a command sequence following selection of said activation function selection to be interpreted as a CLASS function until disabled; and a deactivation function selection for disabling interpretation of a command sequence as a CLASS function following selection of said deactivation function selection.

These and other features of the invention(s) will become clearer with reference to the following detailed description of the presently preferred embodiments and accompanied drawings.

DESCRIPTION OF THE DRAWINGS

Figure 1 is a schematic illustration of an operating surface utilized in a telephone device constructed in accordance with the present invention.

Figure 2 shows the operating surface of Figure 1 in an enlarged illustration.

DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS--;

in line 17, cancel "key" substitute --keys-- therefor;

in line 19, cancel "functions" substitute --function-- therefor, and after "key" insert --8--;

in line 20, cancel "functions" substitute --function-- therefor;

in line 24, cancel "FED" substitute --FWD-- therefor;

in line 29, cancel "Audio" substitute --Automatic-- therefor.

On page 4, in line 14, cancel ", respectively,";
in line 23, cancel "22" substitute --20-- therefor;
in line 31, after "function)" insert a comma.

On page 5, in line 7, after "7" insert a comma;
in line 11, after "7" insert a period;
in line 14, after "function)" insert a comma;
in line 21, after "7" insert a comma;
in line 26, after "function)" insert a comma;
in line 27, after "key" insert a comma.

On page 6, in line 2, after "7" insert a comma;
in line 9, after "function)" insert a comma;
in line 10, after "key" insert a comma;
in line 15, after "7" insert a comma;
in line 28, after "key" insert --8--;
in line 31, cancel "be" substitute --being-- therefor.

On page 7, below line 7, insert the following paragraph;

-- Although modifications and changes may be suggested by those of ordinary skill in the art, it is the intention of the inventors to embody within the patent warranted hereon all changes and modifications as reasonably and properly come within the scope of their contribution to the art.--.

IN THE CLAIMS:

On page 8, in line 1, cancel "Patent Claims" substitute --**I CLAIM AS MY INVENTION:**-- therefor.

Please cancel claims 1-12.

Please add the following new claims 13-24:

13. An operating surface for CLASS functions of a telephone device of an analog network, said operating surface comprising:

an activation function selection for enabling a command sequence following selection of said activation function selection to be interpreted as a CLASS function until disabled; and

a deactivation function selection for disabling interpretation of a command sequence as a CLASS function following selection of said deactivation function selection.

14. The operating surface according to claim 13, wherein said activation function selection is for controlling an executive function sequence of a complex CLASS function.

15. The operating surface according to claim 13, wherein said activation function selection and said deactivation function selection are for signaling network status.

16. The operating surface according to claim 13, wherein said activation function selection is a first fixed key; and wherein said deactivation function selection is a second fixed key.

17. The operating surface according to claim 13, further comprising:

a number of programmable keys each for a CLASS function.

18. The operating surface according to claim 17, wherein said programmable keys of said CLASS functions are for employment as speed dialing keys when said activation function selection has not been selected.

19. The operating surface according to claim 17, wherein said activation function selection is a first fixed key; and wherein said deactivation function selection is a second fixed key; and wherein said programmable keys comprise fourteen programmable keys for said CLASS functions.

20. The operating surface according to claim 13 further comprising:
a display.

21. The operating surface according to claim 13, further comprising:
a memory for maintaining a list of incoming calls.

22. The operating surface according to claim 21, wherein said list is maintained as FIFO.

23. The operating surface according to claim 21, wherein a direct call can be placed proceeding from said list.

24. A telephone device for an analog network comprising:
an operating surface for CLASS functions of a telephone device of an analog network, said operating surface having:
an activation function selection for enabling a command sequence following selection of said activation function selection to be interpreted as a CLASS function until disabled; and
a deactivation function selection for disabling interpretation of a command sequence as a CLASS function following selection of said deactivation function selection.

IN THE ABSTRACT:

On page 10, cancel lines 1-2, insert the following centered heading at line 1:

--**ABSTRACT OF THE DISCLOSURE**--;

cancel lines 3-9, substitute the following Abstract of the Disclosure therefor:

--An operating surface for CLASS functions of a telephone device of an analog network. The operating surface has two functions, "activate" and "deactivate", so that the command sequence following the "activate" function is interpreted as CLASS function and is turned on and the following command sequence is interpreted as CLASS function and turned off with the "deactivation" function.--.

REMARKS:

The present Amendment revises the specification, drawings and claims to conform to United States patent practice, before examination of the present PCT application in the United States National Examination Phase. All of the changes are editorial and no new matter is added thereby. Claims 1-12 have been canceled. New claims 13-24 are patentably distinguishable from the known prior art.

Early examination on the merits is respectfully requested.

Respectfully submitted,

Steven H. Noll (Reg. No. 28,982)

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Attorneys for Applicant(s)

Patent Claims

1. Operating surface (5) for CLASS functions of a telephone device of an analog network, characterized in that the operating surface (5) comprises two functions, "activation" and "deactivation", so that the command sequence following the "activation" function is interpreted as CLASS function and is turned on and the following command sequence is interpreted as CLASS function and turned off with the "deactivation" function.

2. Operating surface according to claim 1, characterized in that the "activation" function is employed for controlling the executive function sequence of a complex CLASS function.

3. Operating surface according to one of the preceding claims, characterized in that the "activation" and "deactivation" functions are employed for signalling the network status.

4. Operating surface according to one of the preceding claims, characterized in that the "activation" and "deactivation" functions are realized by fixed keys (7, 8).

5. Operating surface according to one of the preceding claims, characterized in that the CLASS functions of the operating surface (5) are formed by programmable keys (9-22).

6. Operating surface according to claim 5, characterized in that the keys (9-22) of the CLASS functions are employed as speed dialing keys given employment without the "activation" function.

7. Operating surface according to one of the claims 5 or 6, characterized in that two fixed keys (7, 8) are employed for the "activation", "deactivation" functions and fourteen programmable keys (9-22) are employed for the CLASS functions.

8. Operating surface according to one of the preceding claims, characterized in that the operating surface (5) comprises a display (4).

9. Operating surface according to one of the preceding claims, characterized in that a list of the incoming calls is maintained in the operating surface (5).

10. Operating surface according to claim 9, characterized in that the list is organized as FIFO.

11. Operating surface according to one of the claims 9 or 10, characterized in that a direct call can be placed proceeding from the list.

12. Telephone device for an analog network comprising an operating surface according to one of the claims 1-11.

Siemens AG
New PCT application
Our Case P-00,1251
GR 98 P 1005 P US
Inventor: Schneider-Hufschmidt

Translation / June 8, 2000 / 911.911 / 2300 words

Siemens AG
New PCT application
Our Case P-00,1251
GR 98 P 1005 P US
Inventor: Schneider-Hufschmidt
Re: Substitute Pages

Translation / June 8, 2000 / 911:911 / 650 words

OPERATING SURFACE FOR CLASS FUNCTIONS IN A TELEPHONE

The invention is directed to an operating surface for CLASS functions in a telephone terminal device. In particular, the invention is directed to an operating surface for CLASS functions in an analog telephone of an analog network and to a telephone device having such an operating surface.

What are referred to as CLASS functions are being currently introduced into analog telephone networks. These are ISDN-like functions such as call forwarding, brokering, call waiting, etc. The employment of such CLASS functions in an analog telephone network harbors the difficulty that the network generally does not supply an answerback that can be interpreted by the terminal device. Only a spoken message or an acknowledge tone, which the user but not the terminal device can interpret, is sent via the voice channel. In other words, the desired CLASS function is available given a positive acknowledge signal of the network -- which is referred to below as positive feedback --, whereas the requested CLASS function is not available given a negative acknowledge signal -- referred to below as negative feedback. Since the answerback of the network cannot be interpreted by the terminal device, the terminal device, accordingly, generally does not know whether the requested performance feature of the CLASS function is available or not, i.e. the terminal device has no knowledge about the network status relating to it. It is therefore difficult to visually present the corresponding network function or, respectively, CLASS function in the terminal device, for example with a text or icon, in a dependable way, this presenting no difficulty given a terminal device for an ISDN network.

In traditional operating surfaces of an enhanced-feature telephone device, the CLASS functions are usually controlled via menu entries. In normal telephone devices, dedicated keys or speed dialing keys that can be programmed by the user are employed for this purpose. Such a solution is disadvantageous since keys of the telephone device must be offered for the CLASS functions, which the user rarely uses under certain circumstances. Over and above this, the user would like to have as many speed dialing keys as possible available, so that a conflict of objectives arises

due to the limited space available on the telephone device, namely as many speed dialing keys as possible, on the one hand, and special keys for CLASS functions, on the other hand. Further, a dependable visualization of the network status cannot be undertaken on the telephone device since the device has no reliable information about the network status. Since the device information cannot be matched with the network status, incorrect displays can therefore occur at all terminal devices.

EP-A-0 19 948 is directed to a method for the initiation of switching-oriented functions and services with keys of telephone stations having a main memory and alphanumerical display. After actuation of a first special key, all functions and services are thereby successively called and presented on the display. By actuating a second special key, the functions or, respectively, services indicated on the display are realized.

EP-A-0 503 257 is directed to a device for the operation of a telephone apparatus comprising a selection key and an implementation key that are both connected to an evaluation means. Specific functions are selected from a memory area with the selection key, these being subsequently implemented with the implementation key.

Andreasen et al., "ADSI: THE DAWN OF A NEW AGE OD [sic] INTERACTIVE SERVICES", TELESIS, Vol. 30, No. 97, 1 December 1993, pp. 35-50, describes CLASS functions in analog networks (ADSI: Analog Display Services Interface).

The invention is therefore based on the object of creating an operating surface for CLASS functions of a telephone device of an analog network and a telephone device having such an operating surface with which simple operation is

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UNDER THE PATENT COOPERATION TREATY-CHAPTER II

SUBMISSION OF DRAWINGS

APPLICANT(S):	Matthias Schneider-Hufschmidt
ATTORNEY DOCKET NO.:	P00,1251
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INTERNATIONAL FILING DATE:	11 December 1998
INVENTION:	"OPERATING SURFACE FOR CLASS FUNCTIONS IN A TELEPHONE"

Assistant Commissioner for Patents

Washington, D.C. 20231

S I R:

Applicant herewith submits one sheet (Figs. 1 and 2) of drawings as originally submitted for the above-referenced PCT application.

Submitted by,

Steven H. Noll (Reg. 28,982)

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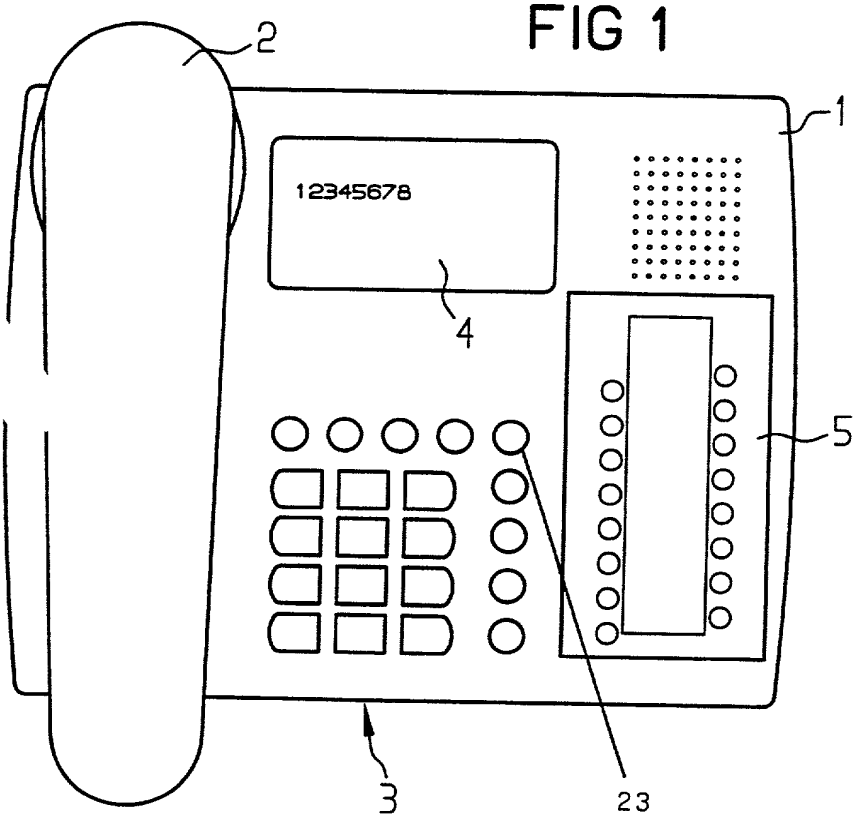
Telephone: 312/876-0200 - Ext. 3899
Attorneys for Applicant(s)

FIG 1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1
12345678
4
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3
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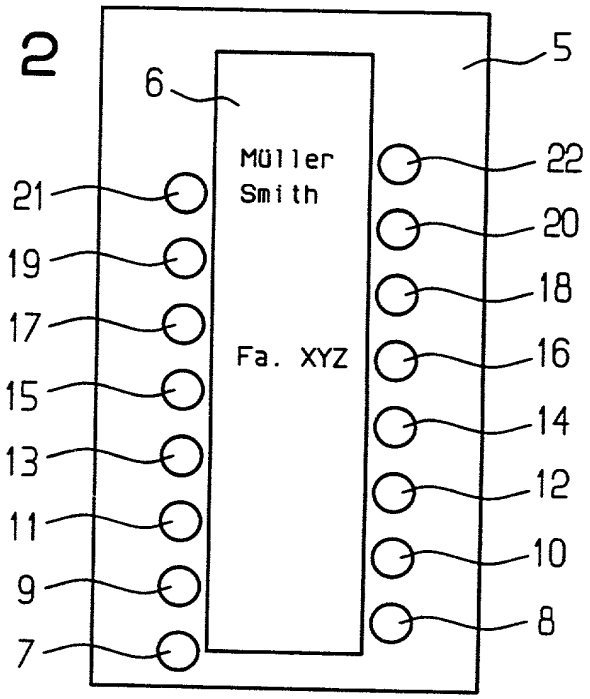
FIG 2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Siemens AG
New PCT application
Our Case P-00,1251
GR 98 P 1005 P US
Inventor: Schneider-Hufschmidt
Re: Substitute Pages

Translation / June 8, 2000 / 911·911 / 650 words

OPERATING SURFACE FOR CLASS FUNCTIONS IN A TELEPHONE

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What are referred to as CLASS functions are being currently introduced into analog telephone networks. These are ISDN-like functions such as call forwarding, brokering, call waiting, etc. The employment of such CLASS functions in an analog telephone network harbors the difficulty that the network generally does not supply an answerback that can be interpreted by the terminal device. Only a spoken message or an acknowledge tone, which the user but not the terminal device can interpret, is sent via the voice channel. In other words, the desired CLASS function is available given a positive acknowledge signal of the network -- which is referred to below as positive feedback --, whereas the requested CLASS function is not available given a negative acknowledge signal -- referred to below as negative feedback. Since the answerback of the network cannot be interpreted by the terminal device, the terminal device, accordingly, generally does not know whether the requested performance feature of the CLASS function is available or not, i.e. the terminal device has no knowledge about the network status relating to it. It is therefore difficult to visually present the corresponding network function or, respectively, CLASS function in the terminal device, for example with a text or icon, in a dependable way, this presenting no difficulty given a terminal device for an ISDN network.

In traditional operating surfaces of an enhanced-feature telephone device, the CLASS functions are usually controlled via menu entries. In normal telephone devices, dedicated keys or speed dialing keys that can be programmed by the user are employed for this purpose. Such a solution is disadvantageous since keys of the telephone device must be offered for the CLASS functions, which the user rarely uses under certain circumstances. Over and above this, the user would like to have as many speed dialing keys as possible available, so that a conflict of objectives arises

due to the limited space available on the telephone device, namely as many speed dialing keys as possible, on the one hand, and special keys for CLASS functions, on the other hand. Further, a dependable visualization of the network status cannot be undertaken on the telephone device since the device has no reliable information about the network status. Since the device information cannot be matched with the network status, incorrect displays can therefore occur at all terminal devices.

EP-A-0 19 948 is directed to a method for the initiation of switching-oriented functions and services with keys of telephone stations having a main memory and alphanumerical display. After actuation of a first special key, all functions and services are thereby successively called and presented on the display. By actuating a second special key, the functions or, respectively, services indicated on the display are realized.

EP-A-0 503 257 is directed to a device for the operation of a telephone apparatus comprising a selection key and an implementation key that are both connected to an evaluation means. Specific functions are selected from a memory area with the selection key, these being subsequently implemented with the implementation key.

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The invention is therefore based on the object of creating an operating surface for CLASS functions of a telephone device of an analog network and a telephone device having such an operating surface with which simple operation is

OPERATING SURFACE FOR CLASS FUNCTIONS IN A TELEPHONE

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What are referred to as CLASS functions are being currently introduced into analog telephone networks. These are ISDN-like functions such as call forwarding, brokering, call waiting, etc. The employment of such CLASS functions in an analog telephone network harbors the difficulty that the network generally does not supply an answerback that can be interpreted by the terminal device. Only a spoken message or an acknowledge tone, which the user but not the terminal device can interpret, is sent via the voice channel. It is therefore difficult to visually present the corresponding network function or, respectively, CLASS function in the terminal device, for example with a text or icon, in a dependable way.

In traditional operating surfaces of an enhanced-feature telephone device, the CLASS functions are usually controlled via menu entries. In normal telephone devices, dedicated keys or speed dialing keys that can be programmed by the user are employed for this purpose. Such a solution is disadvantageous since keys of the telephone device must be offered for the CLASS functions, which the user rarely uses under certain circumstances. Over and above this, the user would like to have as many speed dialing keys as possible available, so that a conflict of objectives arises due to the limited space available on the telephone device, namely as many speed dialing keys as possible, on the one hand, and special keys for CLASS functions, on the other hand. Further, a dependable visualization of the network status cannot be undertaken on the telephone device since the device has no reliable information about the network status. Since the device information cannot be matched with the network status, incorrect displays can therefore occur at all terminal devices.

The invention is therefore based on the object of creating an operating surface for CLASS functions of a telephone device of an analog network and a telephone device having such an operating surface with which simple operation is

enabled and that resolves the conflict between the highest possible plurality of speed dialing keys and the necessary keys for the CLASS functions.

This object is achieved by the features of claims 1 and 12. Preferred embodiments of the invention are the subject matter of the subclaims.

Inventively, an operating surface for CLASS functions of a telephone device of an analog network comprises the two functions "activate" and "deactivate", so that the command sequence following the function "activate" is interpreted as CLASS function and the following "CLASS function" is turned off with the function "deactivate".

Further, the "activate" function can be employed for controlling the executive function sequence of a complex "CLASS function".

Additionally, the "activate" and "deactivate" functions can be employed by the user for signalling the network status to the telephone device, so that the telephone device can correctly visualize the network status, for example via a text display or an icon.

The "activate" and "deactivate" functions are preferably realized by fixed keys of the telephone device; however, the functions can also be realized as display elements of a picture screen that are activated via a corresponding selection with a cursor, for example a mouse. A selection via a voice input is also possible.

The CLASS functions of the operating surface are preferably formed by programmable keys. The keys of the CLASS functions can be employed as speed dialing keys when the "activate" or, respectively, "deactivate" function is not turned on.

In a preferred embodiment of the invention, two fixed keys are employed in the operating surface for the "activate' and "deactivate" functions and up to 14 programmable keys are employed for the CLASS functions, so that a total of 16 keys are employed.

Further, the operating surface preferably comprises a display for the presentation of the icons, the numbers of calling parties (CLIP functionality), speed dialing occupation of the programmable keys, etc. The display of the telephone device is preferably employed as display. Further, the operating surface can

comprise an active field. The active field can likewise be designed as electronic display.

A list of the incoming calls can preferably be maintained in the operating surface, whereby the list is preferably organized as FIFO. Direct calls can be placed proceeding from the list.

The invention is described in greater detail below on the basis of a preferred embodiment with reference to the drawings.

Figure 1 shows a schematic illustration of an operating surface utilized in a telephone device; and

Figure 2 shows the operating surface in an enlarged illustration.

Figure 1 shows a telephone device 1 with an earphone 2, a standard telephone keyboard 3 with auxiliary functions as well as a display 4. The telephone device 1 also comprises and additional operating surface 5 for the CLASS functions.

Figure 2 shows an enlarged illustration of the operating surface 5. The operating surface 5 comprises an active field 6, whereby respectively 8 keys are arranged to the left and right of the active field 6, i.e. a total of 16 keys. Of these, the respectively lower key 7, 8 of the two rows are fixed keys that are occupied with the "activate" and "deactivate" functions. As already explained, the key 7 having the "activate" functions serves mainly for initiating a CLASS function, whereas the key with the "deactivate" functions turns the CLASS function off. The remaining 14 keys are programmable and, in view of their employment as CLASS function keys, can be occupied with, for example, the following CLASS functions:

Key 9:	FWD Uncond
Key 11:	FED busy
Key 13:	FWD No Reply
Key 15:	Cancel FWD
Key 17:	CW (call waiting)
Key 19:	Direct Call
Key 21:	Audio Redial
Key 10:	Reject
Key 12:	Accept

Key 14: Swap

Key 16: Conference

Key 18: Transfer

Key 20: CLIR

Key 22: not occupied.

The programmable keys 9-22 are doubly occupied, whereby the double functions are controlled via the "activate" and "deactivate" keys. When no CLASS functions are activated, i.e. the key 7 in the exemplary embodiment is not pressed, then the keys 9-22 serve as speed dialing keys that are occupied with the telephone numbers the user has programmed in. These telephone numbers can be displayed on the active field 6 of the operating surface 5 at the level of the corresponding key. When the active field 6 is designed as electronic display, these information can be displayed thereat. Icons and/or numerals are displayed on the display 4 shown in Figure 1, so that the status of the device or, respectively, of the network can be visualized.

The keys of the "activate" and "deactivate" functions preferably differ in color from the other keys. For example, the function key 7 "activate" is designed in the color green, whereas the function key 8 "deactivate" is implemented in the color red.

The CLASS functions utilized here are the 4 CF (call forwarding) functions CFU (call forwarding unconditioned, key 9), CFB (call forwarding busy, key 11), CFN (call forwarding no reply, key 13) and general deactivation (key 15). The CLASS functions CLIR (calling line identification restriction, key 22), CW (call waiting, key 17), fixed destination call (direct call, key 19), automatic redial (key 21), as well as the 5 brokering functions R0 through R4 (keys 10, 12, 14, 16 and 18) are also realized.

Examples of the operating sequence of a telephone device provided with such an operating surface are presented below:

I. Activation of a CLASS function in the case of a positive feedback:

1. Pick up receiver,

2. Press green key 7 ("activate" function)

3. Press desired function key,

4. Potential input of the PIN and other necessary data at the cursor position,

5. Ending the string of Point 4 by:

waiting 5 seconds or

manual input of # or

pressing the green key 7

6. In case of a positive feedback:

hang up receiver or

wait 5 seconds or

press the green key 7

II. Activation of a CLASS function in the case of a negative feedback:

1. Pick up receiver,

2. Press green key 7 ("activate" function)

3. Press desired function key,

4. Potential input of the PIN and other necessary data at the cursor position,

5. Ending the string of Point 4 by:

waiting 5 seconds or

manual input of # or

pressing the green key 7

6. In case of a negative feedback:

pressing the red key 8 within 5 seconds.

III. Deactivating a CLASS function in the case of a positive feedback:

1. Pick up receiver,

2. Press red key 8 ("deactivate" function)

3. Press desired function key

4. Potential input of the PIN and other necessary data at the cursor position,

5. Ending the string of Point 4 by:

waiting 5 seconds or

manual input of # or

pressing the green key 7

6. In the case of a positive feedback:

hang up receiver or

wait 5 seconds or

press the green key 7.

IV. Deactivating a CLASS function in the case of a negative feedback:

1. Pick up receiver,

2. Press red key 8 ("deactivate" function)

3. Press desired function key

4. Potential input of the PIN,

5. Ending the string of Point 4 by:

waiting 5 seconds or

manual input of # or

pressing the green key 7

6. In the case of a negative feedback:

pressing the red key 8 within 5 seconds.

Further, a list of the received calls is maintained, whereby all received calls are stored, whether they were successful or not. This list is preferably realized as FIFO, whereby the list covers a maximum of 10 entries in the preferred embodiment. Repetitions, i.e. repeat calls of the same calling party, are removed from the list, so that the list only contains the last call of this calling party in this case. Unsuccessful call attempts can be optically displayed by the flashing or lighting of a call list key.

The call list can be fetched by actuating a key 23, "Call List". In this first status, the numbers of the calling parties are displayed and the user can scroll through the list by renewed pressing of the key 23 "Call List". When no activity is indicated in this first status for a predetermined time, for example 30 seconds, or when the red key is pressed, then this first status is exited and the operating surface returns into the idle condition.

By pressing the green key 7, the operating surface switches from a first into a second status wherein additional information about the call in the list be viewed

at the moment is displayed. By pressing the red key 8 or as a result of non-activity for a second predetermined time span, for example 5 seconds, the operating surface returns into the first status.

By pressing the green key 7 again within a predetermined period of time (for example, 5 seconds), the operating surface switches into a third status, the dialing status, wherein the attempt to set up a connection to the corresponding number is undertaken.

Abstract

Operating Surface for CLASS Functions in a Telephone

The invention is directed to an operating surface for CLASS functions of a telephone device of an analog network, whereby the operating surface comprises two functions, "activate" and "deactivate", so that the command sequence following the "activate" function is interpreted as CLASS function and is turned on and the following command sequence is interpreted as CLASS function and turned off with the "deactivation" function.

Figure 2

Declaration and Power of Attorney For Patent Application
Erklärung Für Patentanmeldungen Mit Vollmacht
German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt:

As a below named inventor, I hereby declare that:

dass mein Wohnsitz, meine Postanschrift, und meine Staatsangehörigkeit den im Nachstehenden nach meinem Namen aufgeführten Angaben entsprechen,

My residence, post office address and citizenship are as stated below next to my name,

dass ich, nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, fur den dieser Antrag gestellt wird und für den ein Patent beantragt wird fur die Erfindung mit dem Titel·

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Benutzungsoberfläche für CLASS-Funktionen in einem Fernsprecher

deren Beschreibung

the specification of which

(zutreffendes ankreuzen)

☒ hier beigefügt ist.

☐ am _____ als PCT internationale Anmeldung PCT Anmeldungsnummer _____ eingereicht wurde und am _____ abgeändert wurde (falls tatsächlich abgeändert).

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☐ is attached hereto.

☐ was filed on _____ as PCT international application PCT Application No. _____ and was amended on _____ (if applicable)

Ich bestätige hiermit, dass ich den Inhalt der obigen Patentanmeldung einschliesslich der Ansprüche durchgesehen und verstanden habe, die eventuell durch einen Zusatzantrag wie oben erwähnt abgeändert wurde.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended by any amendment referred to above.

Ich erkenne meine Pflicht zur Offenbarung irgendwelcher Informationen, die für die Prüfung der vorliegenden Anmeldung in Einklang mit Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) von Wichtigkeit sind, an.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäss Abschnitt 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 119 aller unten angegebenen Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde, und habe auch alle Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde nachstehend gekennzeichnet, die ein Anmeldedatum haben, das vor dem Anmeldedatum der Anmeldung liegt, für die Priorität beansprucht wird.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

German Language Declaration

Prior foreign appplications
Priorität beansprucht

			Priority Claimed	
19800458.3	Germany	08. January 1998	☒	☐
(Number) (Nummer)	(Country) (Land)	(Day Month Year Filed) (Tag Monat Jahr eingereicht)	Yes Ja	No Nein
			☐	☐
(Number) (Nummer)	(Country) (Land)	(Day Month Year Filed) (Tag Monat Jahr eingereicht)	Yes Ja	No Nein
			☐	☐
(Number) (Nummer)	(Country) (Land)	(Day Month Year Filed) (Tag Monat Jahr eingereicht)	Yes Ja	No Nein

Ich beanspruche hiermit gemäss Absatz 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 120, den Vorzug aller unten aufgeführten Anmeldungen und falls der Gegenstand aus jedem Anspruch dieser Anmeldung nicht in einer früheren amerikanischen Patentanmeldung laut dem ersten Paragraphen des Absatzes 35 der Zivilprozeßordnung der Vereinigten Staaten, Paragraph 122 offenbart ist, erkenne ich gemass Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) meine Pflicht zur Offenbarung von Informationen an, die zwischen dem Anmeldedatum der früheren Anmeldung und dem nationalen oder PCT internationalen Anmeldedatum dieser Anmeldung bekannt geworden sind.

I hereby claim the benefit under Title 35. United States Code. §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occured between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Serial No.) (Anmeldeseriennummer)	(Filing Date) (Anmeldedatum)	(Status) (patentiert, anhängig, aufgegeben)	(Status) (patented, pending, abandoned)
(Application Serial No.) (Anmeldeseriennummer)	(Filing Date) (Anmeldedatum)	(Status) (patentiert, anhängig, aufgeben)	(Status) (patented, pending, abandoned)

Ich erkläre hiermit, dass alle von mir in der vorliegenden Erklärung gemachten Angaben nach meinem besten Wissen und Gewissen der vollen Wahrheit entsprechen, und dass ich diese eidesstattliche Erklärung in Kenntnis dessen abgebe, dass wissentlich und vorsätzlich falsche Angaben gemäss Paragraph 1001, Absatz 18 der Zivilprozessordnung der Vereinigten Staaten von Amerika mit Geldstrafe belegt und/oder Gefängnis bestraft werden koennen, und dass derartig wissentlich und vorsätzlich falsche Angaben die Gültigkeit der vorliegenden Patentanmeldung oder eines darauf erteilten Patentes gefährden können.

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German Language Declaration

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POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith *(list name and registration number)*

19

And I hereby appoint

Messrs. John D. Simpson (Registration No. 19,842) Lewis T. Steadman (17,074), William C. Stueber (16,453), P. Phillips Connor (19,259), Dennis A. Gross (24,410), Marvin Moody (16,549), Steven H. Noll (28,982), Brett A. Valiquet (27,841), Thomas I. Ross (29,275), Kevin W. Guynn (29,927), Edward A. Lehmann (22,312), James D. Hobart (24,149), Robert M. Barrett (30,142), James Van Santen (16,584), J. Arthur Gross (13,615), Richard J. Schwarz (13,472) and Melvin A. Robinson (31,870), David R. Metzger (32,919), John R. Garrett (27,888) all members of the firm of Hill, Steadman & Simpson, A Professional Corporation.

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Staatsangehörigkeit	Citizenship
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(Bitte entsprechende Informationen und Unterschriften im Falle von dritten und weiteren Miterfindern angeben).

(Supply similar information and signature for third and subsequent joint inventors).